

# Physicians in Public Health

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**P**UBLISHED DIRECTORIES and listings accumulated by several professional organizations and health agencies give only partial or noncurrent information on the number and characteristics of physicians who devote full time to public health activities. All such listings have been prepared for some specific purpose which in no case encompasses that of providing a complete inventory of full-time public health physicians.

The purposes of the present study were to obtain as complete a count as possible of physicians engaged full time in the field of public health; to analyze their characteristics, qualifications for public health work, and geographic distribution; and to ascertain their medical school background. This paper covers the first two of these purposes.

Prerequisite to making such a study was the adoption of a definition of public health. Although not providing specific criteria for selection of physicians, the broad and widely accepted concept of public health as organized

community effort for "preventing disease, prolonging life, and promoting physical and mental health and efficiency," expressed by Dr. C.-E. A. Winslow (1), seemed the most useful. With this definition, it was possible to establish a broad requirement for inclusion in the study, that is, service in preventive medicine as a teacher, an administrator, a research investigator, or a practitioner in governmental or organized voluntary activities, as contrasted with service in clinical medicine or independent practice.

As will be shown in the discussion of the available sources of information, decisions with regard to the inclusion or exclusion of individual physicians had to be fairly arbitrary, and the list compiled is admittedly incomplete. Nevertheless, the accumulation of a total count of almost 3,500 full-time public health physicians and the analysis of data on their distribution by age, position, and geographic location are believed to be a useful start toward more definitive and detailed studies.

## Materials and Method

The primary sources used in the study were the following:

1. The list of diplomates of the American Board of Preventive Medicine in the 1951 edition of the Directory of Medical Specialists (2) plus a list of physicians who received their certificates in 1951, the latter obtained from the files of the secretary of the board.
2. The 1951 Directory of Full-Time Local Health Units (3).

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3. The 1951 Directory of State and Territorial Health Authorities (4).

4. Information on full-time faculty members in schools of public health obtained in a 1950 survey of these schools (5).

5. A list of physicians with regular or active reserve commissions in the Public Health Service who were engaged in nonclinical work in 1951.

6. Information on full-time faculty members in departments of preventive medicine obtained by the Office of Defense Mobilization in its 1951 survey of medical school faculties.

7. Schedules listing full-time health department personnel collected by the Division of State Grants, Public Health Service, in a study made for the National Security Resources Board in 1951.

8. Lists furnished by the Army, Navy, and Air Force of personnel giving full time to preventive medicine and public health in 1951 (Air Force data are for 1953).

None of these sources gives a complete picture of all physicians engaged full time in public health work. The following limitations on the inclusiveness of the listings should be noted.

The roster of diplomates of the American Board of Preventive Medicine does not include all physicians in public health because many of them lack the requisite 6 years of special training, teaching, or practice in preventive medicine. Furthermore, the board was established only in 1948, and many eligible physicians have not yet applied for certification. The diplomates, therefore, represent only the more experienced physicians in the field of public health.

Reports of the number of physicians employed full time in State and local departments and other non-Federal governmental agencies, of course, give no indication of the number in other types of organizations. Numerous physicians engaged in public health work are employed by voluntary agencies and foundations.

Since the Public Health Service, the Army, the Navy, and the Air Force are responsible for a wide range of operations in the field of medicine, it was necessary to separate the physicians concerned primarily with public health from those concerned primarily with clinical medicine. For Public Health Service person-

nel, all physicians with a Regular or Active Reserve Corps commission engaged in non-clinical work were included, whether in the Public Health Service or detailed to other Federal agencies. For the other services, groups of physicians working full time in various branches of preventive medicine were selected, after a review of the classification maintained in each service, on the basis of both qualifications and nature of assignment. None of these services was able to furnish a complete listing of physicians giving full time to preventive medicine.

Other Federal agencies—such as the Children's Bureau, Department of Health, Education, and Welfare; the Veterans Administration; and the Atomic Energy Commission—which employ a number of public health physicians, were not asked for lists. Some of their public health physicians are included, however, because they are commissioned officers of the Public Health Service or because they are diplomates of the American Board of Preventive Medicine. For example, almost two-thirds of the regional medical directors and the physicians on the headquarters staff of the Children's Bureau are diplomates.

In addition to the 8 primary sources of information, 3 secondary sources were used to supply biographical data: the 1950 American Medical Directory (6), the 1951 Membership Directory of the American Public Health Association (7), and lists of physicians awarded public health degrees by approved schools of public health.

Physicians listed only in the secondary sources were not included in the study, for various reasons. There is no assurance, for example, that all 1,567 physicians listed in the 1950 American Medical Directory as limiting their practice to public health were actually in the public health field at that time. This directory is based on cards mailed to all physicians; the number of physicians who failed to return the card and for whom, therefore, the directory information is not current is unknown. The Directory of the American Public Health Association includes foreign physicians, physicians engaged only part time in public health, and physicians with an interest in public health, as well as those devoting full time to the field.

Because the major sources of information provided data for 1951, an effort was made to obtain data from other sources relating as closely as possible to that year.

In collating the information from the several primary sources, the following procedure was used: The names of all diplomates of the American Board of Preventive Medicine were first entered on cards. These cards were alphabetized and checked against the directories of State and local health departments; a card was then made for each additional physician listed in these directories. In like manner, cards were added for physicians listed in the other primary sources. Of the 3,484 physicians included in the study, 29 percent were obtained from the list of diplomates; 27 percent from the directories of State and local health departments; 25 percent from the special study of health department personnel; 14 percent from the list of Public Health Service commissioned officers; and 5 percent from the other sources.

The card for each physician contained as much of the following information as could be obtained: name; State and city in which located; year of birth; medical school; year of graduation; specialty board certification, if any; present position; degree in public health, if any; school from which degree in public health was obtained; date of degree in public health; specialty, if indicated in the American Medical Directory.

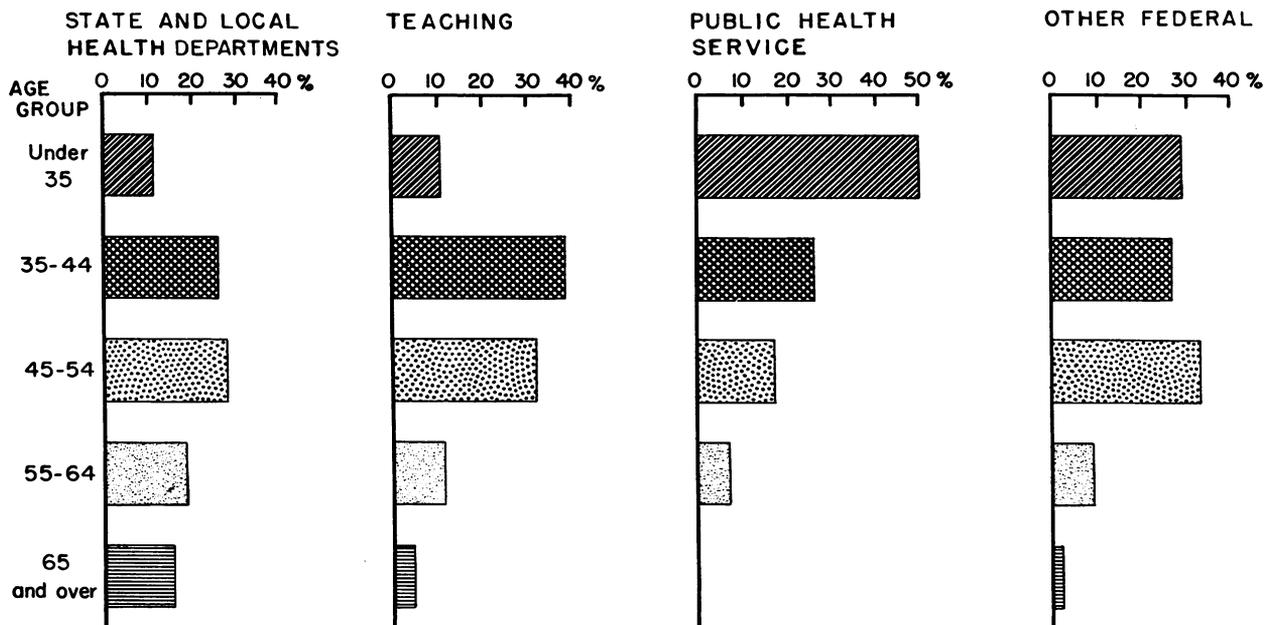
#### Type of Position

In 1951, an estimated 3,441 physicians were engaged full time in some phase of public health work. Almost half (48 percent) of them were in local health departments. The next largest group (18 percent) comprised the commissioned officers of the Public Health Service. An additional 17 percent were in State and Territorial health departments. Physicians in Federal positions other than the Public Health Service

**Table 1. Public health physicians by present position and age, 1951**

Present position	All ages	Age group					
		Under 35	35-44	45-54	55-64	65 and over	Unknown
Total.....	3,484	641	922	920	569	412	20
Engaged in public health work.....	3,441	641	915	912	557	396	20
State or Territorial health department.....	581	53	186	196	93	52	1
Health officer.....	52	0	16	20	8	8	0
Other.....	529	53	170	176	85	44	1
Local health department.....	1,645	186	383	414	338	310	14
Health officer.....	1,003	92	205	238	215	241	12
Other.....	642	94	178	176	123	69	2
Other State or local agency.....	56	7	11	15	12	11	0
Teaching.....	168	18	65	54	19	9	3
School of public health.....	72	6	27	27	10	1	1
Preventive medicine in medical school.....	66	12	26	20	2	4	2
Other.....	30	0	12	7	7	4	0
Public Health Service.....	627	309	163	108	46	0	1
Other Federal.....	239	68	64	79	22	5	1
All other.....	125	0	43	46	27	9	0
Hospital.....	40	0	13	15	10	2	0
Voluntary agency or foundation.....	43	0	12	15	12	4	0
Other positions.....	42	0	18	16	5	3	0
Not engaged in public health work.....	43	0	7	8	12	16	0
Private practice.....	4	0	0	2	2	0	0
Retired.....	16	0	0	0	4	12	0
Position unknown.....	23	0	7	6	6	4	0

**Figure 1. Age distribution of public health physicians by type of position, 1951.**



accounted for 7 percent; those engaged in teaching, for 5 percent; and those working in State and local governmental agencies other than health departments, for 1 percent. The remaining 4 percent were in hospitals, voluntary agencies or foundations, or "other positions." In addition to the physicians engaged full time in public health, 4 physicians in private practice, 16 who were retired, and 23 for whom the present position was unknown are included, giving a grand total of 3,484 physicians. The physicians in the "all other" category and those not actually working in public health are included because they are diplomates of the American Board of Preventive Medicine.

### Age Distributions

Analysis of the physicians in public health by position and age brings out some interesting relationships. Of the 641 physicians under 35 years of age, 309, or 48 percent, are in the Public Health Service. At the other end of the age scale, 75 percent of the 412 physicians 65 years of age and over are in local health departments.

The distribution by age of physicians in different types of public health positions is shown in table 1 and figure 1. Although the proportions in each age group vary somewhat, the

age patterns are similar for physicians in State health departments, local health departments, and other State and local governmental agencies. For each of these, the largest proportion of physicians is in the 45-54 age group. The age distribution for physicians in full-time teaching positions differs in several respects from the distribution for physicians in those positions: The largest proportion of teachers is in the 35-44 age group, and the proportion in the youngest and oldest age brackets is smaller.

The percentage distribution by age of physicians in State and local health departments in the United States is shown separately in table 2. The proportion of physicians who are 55 years of age or over is substantially larger in local health departments (40 percent) than in State health departments (26 percent). This is attributable to two factors. First, physicians in positions other than that of health officer tend to be younger than the health officer. For example, 24 percent of local health officers are 65 years or over but only 11 percent of other physicians in local health departments are in this age group. Second, health officers account for 60 percent of physicians in local health departments but for only 9 percent of those in State health departments.

The age spread of physicians in local health departments is much greater than in State health departments. With the relatively high proportion of physicians in local health departments who are 65 years of age or over, special

emphasis on attracting physicians to local health work will be necessary. This problem seems particularly serious inasmuch as many States are making intensive efforts to expand local health activities.

**Table 2. Percentage distribution of physicians in State and local health departments in the United States by regional location and age, 1951**

Location	All ages	Age group				
		Under 35	35-44	45-54	55-64	65 and over
<i>All health departments</i>						
United States.....	100.0	9.7	26.0	27.5	19.5	17.3
Northeast.....	100.0	6.9	29.1	28.8	23.7	11.5
North Central.....	100.0	10.3	20.9	29.6	18.8	20.4
South.....	100.0	11.0	22.1	26.1	20.0	20.8
West.....	100.0	9.7	37.5	26.4	13.9	12.5
<i>State health departments</i>						
United States.....	100.0	8.5	32.7	32.7	16.1	10.0
Northeast.....	100.0	7.2	33.3	26.8	22.2	10.5
North Central.....	100.0	10.6	30.9	35.1	11.7	11.7
South.....	100.0	7.4	29.7	36.0	16.6	10.3
West.....	100.0	10.2	39.8	34.1	9.1	6.8
<i>Local health departments</i>						
United States.....	100.0	10.1	23.8	25.7	20.7	19.7
Northeast.....	100.0	6.7	26.8	29.9	24.5	12.1
North Central.....	100.0	10.2	18.1	28.0	20.8	22.9
South.....	100.0	12.0	20.0	23.4	20.9	23.7
West.....	100.0	9.5	36.7	23.9	15.5	14.4

**Table 3. Public health physicians by regional location and present position, 1951**

Location	Non-Federal					Federal		Private practice, retired, unknown
	Total	State or Territorial health department	Local health department	Teaching	All other	Public Health Service	Other	
Total <sup>1</sup> .....	2,643	<sup>2</sup> 616	<sup>3</sup> 1,678	168	181	559	239	43
United States.....	2,452	539	1,584	160	169	477	154	41
Northeast.....	606	157	301	51	97	56	18	12
North Central.....	511	96	343	47	25	41	19	5
South.....	932	190	672	41	29	314	94	12
West.....	403	96	268	21	18	66	23	12

<sup>1</sup> Includes 360 physicians in Territories and countries other than the United States. <sup>2</sup> Includes 35 Public Health Service physicians serving in State or Territorial health departments. <sup>3</sup> Includes 33 Public Health Service physicians serving in local health departments.

**Table 4. Public health physicians by present position and professional characteristics, 1951**

Present position	Total	With graduate degree			Percent with graduate degree	Diplomates of American Board of Preventive Medicine	
		Total	Master level	Doctorate level		Number	Percent
All positions.....	3, 484	1, 232	1, 042	190	35. 4	1, 008	28. 9
State or Territorial health department.....	581	267	233	34	46. 0	213	36. 7
Local health department.....	1, 645	465	419	46	28. 3	254	15. 4
Other State or local agency.....	56	7	6	1	12. 5	14	25. 0
Teaching.....	168	96	60	36	57. 1	104	61. 9
Public Health Service.....	627	163	133	30	26. 0	133	21. 2
Other Federal agency.....	239	133	115	18	55. 6	122	51. 0
All other.....	168	101	76	25	60. 1	168	<sup>1</sup> 100. 0

<sup>1</sup> These physicians were included in the study only because they are diplomates of the American Board of Preventive Medicine.

The regional variation in the age distribution of physicians in State and local health departments is also shown in table 2. (Region designations are those used by the Bureau of the Census.) In each region, there is a larger proportion of State health department physicians than of local health department physicians in the younger age groups, as the following tabulation further illustrates:

	Percentage of physicians less than 45 years of age	
	Local health department	State health department
United States.....	33. 9	41. 2
Northeast.....	33. 5	40. 5
North Central.....	28. 3	41. 5
South.....	32. 0	37. 1
West.....	46. 2	50. 0

In spite of this consistency, there are significant regional differences in the age distributions of health department physicians. The West, where public health agencies have been expanding rapidly, has the highest proportion of public health physicians in the younger age groups. The lowest proportion of young physicians is in the North Central region for local health departments and in the South for State health departments.

The age distribution of physicians in the Public Health Service is distinct from that for any other group. The highest proportion, 49 percent, is in the group under 35 years of age, and the proportion decreases in each succeeding

age period. Since Public Health Service physicians must retire at age 64 years, none are in the highest age group. (The Air Force, which is included in the category "other Federal" also showed a very high proportion, 72 percent, in the under 35 age group, perhaps in part because the Air Force has been expanding.)

#### Regional Location

The regional location of physicians in various types of public health positions is shown in table 3. The classification by position in this table differs slightly from that used in table 1. The Public Health Service physicians serving in State, Territorial, or local health departments are included with the personnel in these departments rather than with the Public Health Service group. This allocation seems appropriate because these physicians give the same kind of service as that furnished by the health department employees in similar positions.

The proportion of non-Federal public health physicians in different types of positions varies considerably from one region to another. About half of those in the Northeast region are in local health departments, whereas the proportion is between 65 and 75 percent in the other three regions. On the other hand, the proportion of public health physicians in State health departments is higher in the Northeast than in the other three regions.

The distribution of all non-Federal physicians by region in relation to the population distribution is shown below :

	<i>Non-Federal public health physicians (percent)</i>	<i>1951 civilian population (percent)</i>
United States.....	100	100
Northeast.....	25	26
North Central.....	21	30
South.....	38	31
West.....	16	13

The Northeast and the West have about the same proportion of public health physicians and of population. The North Central region has a considerably lower proportion of public health physicians than of population, and in the South the reverse is found.

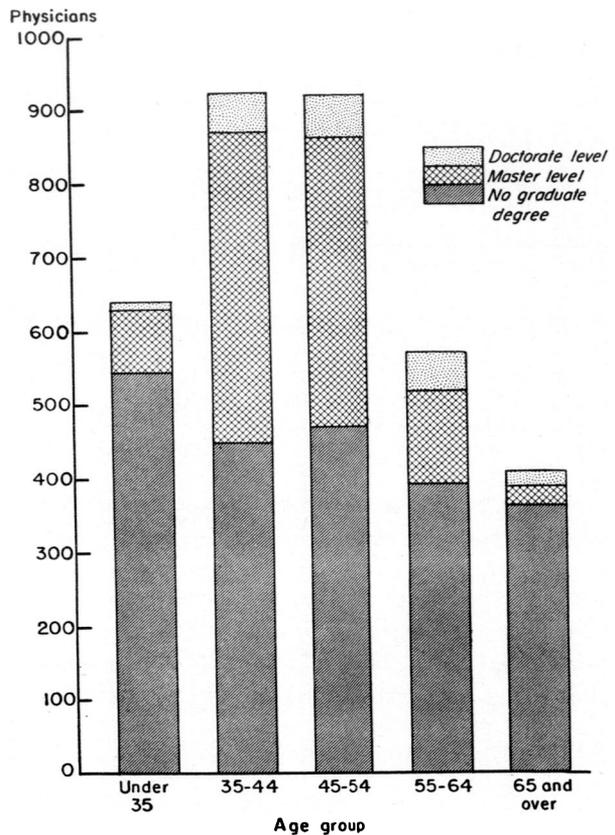
### Graduate Degrees

Of the 3,484 public health physicians included in the study, 1,232 (35 percent) have one or more graduate degrees (table 4). Among the physicians with graduate degrees, 1,042 have a master's degree or certificate and 190 have a doctorate degree. The majority of those with master level training have a degree in public health, but a few hold a master of science or a master of arts degree. At the doctorate level, 139 hold the degree of doctor of public health, 38 are doctors of philosophy, and a few have other doctorates.

The proportion of physicians with graduate degrees varies considerably from one type of position to another. While 46 percent of all physicians in State health departments have graduate degrees, 73 percent of State health officers and only 43 percent of other physicians in State health departments have such degrees. The proportion with graduate degrees is high among public health physicians in teaching positions, in "other Federal" positions, and in "all other" positions. The lowest proportion is among the physicians in agencies of State and local government other than health departments. The comparatively low proportions of Public Health Service physicians with graduate degrees may be partly accounted for by the high proportion (49 percent) of physicians under 35 years of age in this group.

The number of physicians in each age group

**Figure 2. Public health physicians with or without graduate degrees by age group, 1951.**



with and without graduate degrees is shown in figure 2. In the group 65 years of age and over, 11 percent have a graduate degree; in the youngest age category, the proportion is 15 percent; for those aged 55-64 years, the proportion increases to 31 percent; in the two age groups 35-44 years and 45-54 years, 51 and 49 percent, respectively, have graduate degrees. The relatively low percentage of older physicians with public health degrees may be attributed to the fact that opportunities for graduate training in public health were limited until the late 1930's. The number of physicians with doctorate degrees is very small for those under 35 years of age, greater for those 65 years and over, and greatest for physicians in the middle age brackets.

Substantial differences are found among the four regions of the country in the proportion of State and local health department physicians with graduate degrees or with specialty quali-

fications in preventive medicine (table 5). As may be expected, the proportion of physicians with degrees closely parallels the proportion with specialty qualifications. These characteristics, in turn, are correlated with the proportion of physicians between 35 and 54 years of age. The West, with the highest proportion of physicians in this age group, has the highest proportion with graduate degrees or with specialty qualifications. The South, with the lowest proportion of public health physicians in the 35-54 age group, has the lowest proportion of physicians with these qualifications. In general, roughly the same relationships hold when characteristics of physicians in State and local agencies are examined separately.

### Specialization

Twenty-nine percent of the public health physicians in the study are diplomates of the Amer-

ican Board of Preventive Medicine (table 4). Again great variation appears among physicians in different types of positions. Physicians in "all other" positions are all diplomates—the reason for their inclusion in the study. State health officers have the highest proportion of diplomates (79 percent); physicians below the health officer level in local health departments, the lowest proportion (10 percent).

Of the 1,008 physicians who are diplomates of the American Board of Preventive Medicine, 66 also hold a certificate from another American board. In addition, 178 other physicians in the study are diplomates of other specialty boards—48 of pediatrics, 37 of internal medicine, 27 of psychiatry and neurology, 20 of pathology, and a few each of 9 other boards. In some instances this specialization indicates a shift in interest or in type of practice from the designated specialty to public health. In other instances a physician employed full time in a health de-

**Table 5. Physicians in health departments by regional location and professional characteristics, 1951**

Location	Total	With graduate degree			Percent with graduate degree	Diplomates of American Board of Preventive Medicine	
		Total	Master level	Doctorate level		Number	Percent
<i>All health departments</i>							
United States .....	2,061	701	625	76	34.0	443	21.5
Northeast .....	451	182	156	26	40.4	104	23.1
North Central .....	427	132	117	15	30.9	82	19.2
South .....	831	232	212	20	27.9	150	18.1
West .....	352	155	140	15	44.0	107	30.4
<i>Local health departments</i>							
United States .....	1,551	452	407	45	29.1	248	16.0
Northeast .....	298	113	99	14	37.9	61	20.5
North Central .....	333	79	69	10	23.7	40	12.0
South .....	656	161	147	14	24.5	82	12.5
West .....	264	99	92	7	37.5	65	24.6
<i>State health departments</i>							
United States .....	510	249	218	31	48.8	195	38.2
Northeast .....	153	69	57	12	45.1	43	28.1
North Central .....	94	53	48	5	56.4	42	44.7
South .....	175	71	65	6	40.6	68	38.9
West .....	88	56	48	8	63.6	42	47.7

partment is a specialist in child health work, mental health work, or laboratory work, or in other positions requiring special clinical competence.

The 1950 American Medical Directory lists 1,146 of the 3,484 physicians in the study as full-time specialists in public health. An additional 470 physicians in the study are listed in the directory as full-time specialists in other fields, and 154 are listed as giving special attention to a specialty. Of those listed as full-time specialists in other fields, the largest numbers are in internal medicine, pediatrics, and pulmonary diseases. Many of these physicians are listed as specialists in other fields because the data in the directory are less current than the other sources of information used in the present study. But, some physicians employed in State and local health departments have reported their field of medicine, such as pediatrics, pulmonary disease, and orthopedics, as their specialty rather than public health.

### Conclusions

A start has been made toward developing a count of physicians who devote full time to public health, a task facilitated by the fact that, as a result of special studies, pertinent information was available. The count was undertaken because it was felt that it would be useful in measuring the distribution of public health physicians and in analyzing their professional and personal characteristics.

Several practical difficulties arise in constructing an inventory of this type. One is the problem of definition. An inventory implies a reasonably precise definition from which criteria for inclusion may be derived. Because of rapid changes in the scope of public health, a precise definition is impossible. In approaching the task, a broad concept of public health was adopted, as expressed in Winslow's widely accepted statement. Although this definition does not provide specific criteria, it offers breadth of scope appropriate to current concepts of public health.

Another practical difficulty relates to the availability of information. Although the various sources of data used in the study give the names of physicians with special interest

and responsibility in public health, some of the individuals included in these sources are engaged in activities very similar to those of other physicians who are not included. Thus, some hospital administrators are included because they are diplomates of the specialty board in preventive medicine, whereas others, without such specialty board certification, are omitted. Similarly, physicians engaged in laboratory research in certain agencies are included in our count, while others conducting similar research in other agencies are excluded. Nevertheless, for several groups, such as physicians employed by health departments and those teaching public health and preventive medicine, the roster should be reasonably complete.

Of necessity, criteria adopted in this study are pragmatic rather than theoretically consistent. Review of the characteristics and responsibilities of physicians included in this inventory, however, may facilitate discussion of both definition and method and help resolve some of the problems we have encountered.

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